Proceedings of SOCIOINT 2017- 4th International Conference on Education, Social Sciences and Humanities
10-12 July 2017- Dubai, UAE

SEXUAL BEHAVIOUR IN NIGERIAN CONTEXT, VULNERABILITY TO CERVICAL CANCER AND HEALTH PROMOTION

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Abstract

The study examined the extent to which Nigerian women are vulnerable to cervical cancer in the context of their cultural characteristics of sexual behaviour. The data were extracted from 2015 Regional Breast and Cervical Cancers Survey that targeted women in age 15-49 years using structured face-to-face interviews. The geo-political zones constituted the strata, out of which two geo-political zones (South West and North Central) were randomly selected and only two states (one from each zone) were randomly picked. The data were analysed using univariate and multivariate techniques. The study revealed the proportion of respondents with identified risk factors that could increase vulnerability to cervical cancer including STIs such as vagina discharge (15.4%) experience heavy or long menstruation (13.9%), discomfort during sexual intercourse (13.1%), pelvic pain (9.5%) and bleeding in-between menstrual periods (5.6%). Multiple sexual partnership practice was not perceived as a risk factor to cervical cancer. The study concludes that the traditional passivity on women sexual relationship could aggravate the vulnerability to cervical cancer. Counselling also would be necessary to address women perception and understanding of various implications of their sexual behaviour in order to reduce the spread of not only cervical cancer but also other reproductive health challenges.

Keywords: Cervical cancer, multiple partners, sexual behaviour, women

1. INTRODUCTION

Cervical cancer is a prominent cancer among women worldwide and the mortality due to the disease has been on the increase over the past two decades (Dim, 2012; GLOBOCAN, 2012; Luciani, Cabanes, Prieto-Lara, & Gawryszewski, 2013). Cervical cancer is a preventable cancer of the female genital tract, which

could be described as excessive or abnormal growth of cervical cells (i.e. tumours), often associated with human papillomavirus (HPV), and also classified among sexually transmitted diseases (Biobaku, Fatusi, & Afolabi, 2015; Dim, 2012; Kolawole, 2011). There are up to 80 different types of HPV that are associated with cervical tumours which has made cervical cancer both public and medical health concern (Colombo et al., 2012; Ramakrishnan, Partricia, & Mathan, 2015). It is currently one of the leading causes of cancer deaths among women in developing countries especially where organized screening is not available or affordable (Biobaku et al., 2015; Dim, 2012). The disease mostly occurs to women in their prime age of life, usually at economic productive years of life, which could make their deaths of high economic loss to their family, community and the nation as a whole (Kolawole, 2011). In developing countries, women are often not diagnosed until the disease has reached advanced state (symptomatic) (Ashford & Collymore, 2005). At this stage, the tumor is already causing offensive vaginal discharge/bleeding, with slim chances of survival, in addition with the pain and suffering associated with it (Adewuyi, Shittu, & Rafindadi, 2008; Ashford & Collymore, 2005; Emembolu & Ekwempu, 1988; Kolawole, 2011).

The human papillomavirus (HPV) prevalence rate among women of all ages in Nigeria is 26.3% (Kolawole, 2011). Annual incidence and deaths were reported as 14089 and 8240 women respectively (Bruni et al., 2016)**.** Although there is no general consensus on the causes of cervical cancer, the most suspected factors have been high risk-sexual behaviour of the women (and their partners/spouses), and age at sexual debut that make women more exposed to HPV (Ashford & Collymore, 2005; Kolawole, 2011; Ngubane, 2010; Nnebue, Chimah, Duru, Ilika, & Lawoyin, 2016), (Biobaku et al., 2015; Cancer Research UK, 2012; Durowade et al., 2013; GLOBOCAN, 2012; Nigerian National System of Cancer Registries [NNSCR], 2014; World Health Organization, 2014).

High risk sexual behaviour is usually common in patriarchal societies, of which Nigeria is one (Alliance for Cervical Cancer Prevention [ACCP], 2004; Bayo et al., 2002; Biobaku et al., 2015; Ntekim, 2012). It involves multiple sexual partnership practice. For example, in the patriarchal system of Nigeria, men are permitted to have several wives (polygamous marriages); a woman who loses her husband may be inherited by another male family member; and sexual infidelity, especially of the husband, is not considered as important (Caldwell, 1999; Caldwell & Caldwell, 1987; Ngubane, 2010). Specifically, having many wives, extra-marital affairs (stylised as 'concubinage') or multiple sexual partnership still remain vital indices of wealth in Nigeria context till date (Caldwell, 1999; Caldwell & Caldwell, 1987). The nature of these risks makes the activity a public health concern. Also, the prevalence of other determinants and suspected co-factors of cervical cancer such as early sexual-debut, unprotected sex, STIs (including HIV), poor hygiene, deficient in micronutrient (Biobaku et al., 2015; Kolawole, 2011; Nath, Chowdhury, & Sengupta, 2010), makes sexual behaviour and spread of cervical cancer of research interest. In Nigeria, low condom use is still a major concern, and the median age at first sex is as low as 16 (boys) and 14 (girls) (Nnebue et al., 2016), or 17.6 as reported for women in the Nigeria Demographic Health Survey report of 2013 (National Population Commission (NPC) [Nigeria] & ICF International, 2013).

Nigeria traditions, especially the religion confers great importance to women submissiveness to men, including male's sexual pleasure even at the expense of the woman pleasure, well-being and daring the risks of unprotected sex (Amoo, 2012; Ngubane, 2010; Undie & Benaya, 2006). The use of condom between husband and wife is regarded as abnormal, notwithstanding whether the husband has other wives or the suspicion of either of the party infidelity (Amoo et al., 2015; Kolawole, 2011). Apart from the above, the prevalence of sexual misdemeanour including exchange of sex for money (Wechsberg et al., 2008) could also aid women vulnerability to cervical cancer. In addition, early marriage and high-parity that are usual norms in Nigeria could add to vulnerability of women to cervical cancer (Ibisomi, Gyimah, Muindi, & Adjei, 2011; Ibisomi & Odimegwu, 2011; Sedgh et al., 2006).

There have been numerous global and national initiatives or programmes towards reduction in the incidence of cervical cancer. There are vaccinations against human Papillomavirus (HPV) infection; increasing screenings opportunity that are based on cervical cytology; visual inspection of the cervix, and counselling against unprotected sex (Abiodun, Fatungase, & Olu-Abiodun, 2014; Maseko, Chirwa, & Muula, 2015; Wittet, Cody, & Goltz, 2015). There is also the World Health Organisation's initiative known as 'WHO 25-by-25 target' that was designed towards reduction of deaths that are due to non-communicable diseases (NCD's) by 25% in the year 2025 (Nigerian National System of Cancer Registries [NNSCR], 2014). The World Health Organisation has also recommended routine administration of HPV vaccine to girls as part of national immunization programme for countries. Despite these numerous interventions, the incidence and mortality rates due to cervical cancer has continued. Records have shown that in Nigeria, access to vaccination is limited, knowledge about cervical cancer centres is also low (Abiodun et al., 2014, 2014; Ugwu, Obi, Ezechukwu, Okafor, & Ugwu, 2013) (Abiodun et al., 2014; Kolawole, 2011; Ugwu et al., 2013). This study

therefore investigates the extent to which Nigerian women are vulnerable to cervical cancer in the context of their cultural sexual behaviour. The study also focuses on the assessment of the knowledge, attitudes and practices (KAP) of women that are related to the risk of cervical cancer (such as the practice of multiple sexual partners/sexual networking, incidence of STIs, other risk sexual behaviour and screening participation.

2. RESEARCH METHODS

2.1 Research design

The data for the study was extracted from a 2015 Regional Survey on Breast and Cervical Cancers in Nigeria, funded by the Covenant University Centre for Research, Innovation and Development (CUCRID), Nigeria (Grant No: CUCRID-RG 005-10-14-FS). The research approach was multistage in nature. This was guided by simple random sampling technique where every woman has equal chance of being interviewed. The 36 states in the country were stratified into six geo-political zones on basis of congruity (proximity), cultural characteristics guided by the Federal Republic of Nigeria's geo-political zoning arrangements. The geo-political zones, therefore, constituted the strata, out of which two geo-political zones were randomly selected (South West and North Central). Out of average of six states per zone, only one state was randomly chosen from each of the two zones selected. In each of the state, only two administrative areas called the Local Government Areas (LGAs) were also selected randomly. The survey targeted only women in reproductive age (15-49 years) using structured-face-to-face interviews. Due to lack of sampling frame for women with cervical cancer experiences in the country as at the time of survey, eligible respondents were chosen following a random route-walk aided by simple random sampling along the streets in the enumeration areas selected.

Ethically, the initiative to carry out this research was endorsed by the Ethic and Research Committees of Covenant University and fully supported by the University Authority. Due permissions were secured among the community Heads and Local Authorities and voluntary informed consent obtained from all participants. Where applicable, spouses were consulted before their women were interviewed. Specifically, consent and co-operation from the prospective women were solicited and obtained for the conduct and academic publications that may emanate from the interview. However, confidentiality of study participants was also ensured throughout the execution of this study.

2.2 Data measurements and analysis

The survey instrument was patterned in line with the Cancer Awareness Measure (CAM) developed by the National Awareness and Early Detection Initiative (Cancer Research UK, 2011, 2012). However, the scope of the measures was expanded to include extended risk factors for cervical cancers and coping strategies adopted by survivors. For demographics, characteristics like age, tribe, employment status, marital status were reported. For health status, participants were asked whether they have ever been screened for HIV, ever contacted any STI and the treatment experienced. In terms of sexual behaviour, respondents were asked to indicate their current number of sexual partners, the cumulative number of sexual partner had till date, which was termed in this study as 'total life sexual partners (TLSP)'. Questions were also asked on the age at first sex, age at first pregnancy, use of condom, especially at the last sexual experience. Data were also collected on the frequency of intercourse with and without the use of condoms.

The indicators of women sexual behaviour used were guided by the Integrated Demographic Health Survey Data Classification that defined sexual behaviour indicators for both men and women (National Population Commission, [Nigeria] and ICF International, 2013) and also in line with similar sexual behaviour variables which have been used by other related studies (Burton, 2008; Doyle, Mavedzenge, Plummer, & Ross, 2012; Wellings et al., 2006). The psychometric evaluation of questionnaire indicates that it has satisfactory internal reliability with Cronbach's Alpha above 0.7 for all components. Similarly, the Test-retest reliability was found to be good, with all correlations above 0.7.

The dependent variable was vulnerability to cervical cancer. It was conceptualised (in this study) as the degree to which women are more likely to be affected by, exposed to or susceptible to the infection of cervical cancer. The extent to which the respondents exhibit any of the symptoms of cervical cancer, related infections such as STIs, HIV and other behaviour that can trigger either these symptoms or the disease itself are regarded as vulnerability. This sep followed the World Health Organisation perspectives ((World Health Organization, 2002). The dependent variable was, however, measured as dichotomous variable. It was computed from selected self-reported risk factors of cervical cancer, indicators of STIs, presence of cervical cancer or presence of its other symptoms including HPV. These indicators were adopted, as it were,

following other studies that have adopted self-reported symptoms as efficient and accepted means of assessing risk factors of diseases, sicknesses and population characteristics (Biobaku et al., 2015; Lenderink et al., 2012; Subramanian, Subramanyam, Selvaraj, & Kawachi, 2009).

Only univariate and multivariate analytical levels were employed. The univariate described the socio-demographic characteristics of the respondents and other selected variables while binary logistic regression technique was employed to to estimate whether women vulnerability to cervical cancer is significantly influenced by their sexual behaviour. A p-value of ≤ 0.5 was taken as statistically significant value.

3. RESULTS

The profile of the respondents revealed that all the women interviewed were in the age group (15-49 years). The median age first marriage was 17.5, median age at first sex was 15.4 years and, duration of marriage ranges between 8 and 20 years. The report indicated that 92.1% had primary education and above, those without formal education constituted 7.8% of the total respondents. Specifically, more than half of the respondents had secondary education and below, and 33.9% have had tertiary education (Table 1). Majority of the respondents were economically active, 58.3% were self-employed; 21.8% were either full-time housewives or unemployed as indicated in Table 1. The rural/urban distribution was relatively in the ratio of 40:60 (Table 1). Common sources of information among the respondents are through health workers and religious leaders as well as radio jingles and television. Print and social media were relatively not common as sources of information among the respondents in the study locations.

One of every five respondents has more than one sexual partner at the time of survey.). The total (cumulative) lifetime sexual partner (TLSP) index revealed that 32.1% have had between 2 and 4 sexual partners, 11.4% have had more than four sexual partners while 26.5% have sexual partners who they know or suspected to have other sexual partners (Table 2). Overwhelming proportions have sexual intercourse frequently. The results indicated that 88.3% have not done pap-smear-screening, 78.3% did not use condom in their last sex, only 2% use condom regularly, 17.3% rarely use it and 70.5% never used it (Table 2). The proportion that had experienced one form of sexually transmitted infection (STIs) or the others was only 17.4%. Overwhelming majority of the respondents (82.6%) had never experienced any STIs while only 5.3% of the women interviewed confirmed they have been tested positive for HIV (Table 2).

Table 1. Selected Background information about the Respondents

Selected Variables	**Number**	**%**	**Selected Variables**	**Number**	**%**
Geo-Political Zone			**Working Status**		
North Central	259	25.3	Employee	204	19.9
South West	764	74.7	Self-Employed	596	58.3
Total	**1023**	**100.0**	Full-Time Housewife	48	4.7
Selected State			Unemployed	175	17.1
Kwara State	259	25.3	Total	1023	100.0
Ogun State	764	74.7	**Usual Residence**		
Total	1023	100.0	Rural	412	40.3
Age Group			Urban	611	59.7
Less than 20 years	89	8.7	Total	1023	100.0
20-29 years	286	28.0	**Religion Affiliation**		
30-39 years	345	33.7	Christianity	634	62.0
40 years & above	303	29.6	Islam	356	34.8
Total	1023	100.0	Traditional	33	3.2
Marital Status			**Total**	1023	100.0
Single/Never Married	284	27.8	**Educational Attainment**		
Currently Married	607	59.3	No Schooling	80	7.8
Separated/Divorced	53	5.2	Primary Education	164	16.0
Widowed	38	3.7	Secondary Education	432	42.2
Cohabitation	41	4.0	Tertiary Education	347	33.9
Total	1023	100.0	**Total**	1023	100.0
Children ever had			**Sources of Information**		
None	18	1.8	Radio	267	26.1
1-2 Children	281	27.5	Television (TV)	332	32.5

3-4 Children	335	32.7	Print Media (Paper, etc)	72	7.0
5 Children & Above	94	9.2	Internet	54	5.3
No Response	295	28.8	Others (Health workers, religious houses, etc)	298	29.1
Total	**1023**	**100.0**	**Total**	**1023**	**100**

Source: Field Survey 2015

The proportion of respondents who believed cervical cancer is preventable was 55.2% and those who believed otherwise shares 44.8% of the total respondents (Table 2). In addition, the proportion that knows the cervical cancer vaccine centre was (11.8%) while more than three-quarters believed they cannot be infected irrespective of the number of partners they have (this was not also indicated in the table). Few women (15.4%) indicated they were experiencing vagina discharge, heavy or long menstruation (13.9%), and discomfort during sex (13.1%), pelvic (9.5%), bleed in-between messes (5.6%) and 2.1% have been diagnosed of HPV (Table 3).

The multivariate results indicated all education categories are negatively related to vulnerability to cervical cancer infection. However, only post primary education is statistically significant. Women with secondary and tertiary education are 0.428 and 0.330 less likely vulnerable at p-value of 0.009 and 0.037 respectively. Early sexual debut is positively associated with cervical cancer infections. The result revealed that the higher the age at first sexual intercourse the less vulnerable the women are to cancer infection. Women who had the first sexual experience at age 25 and above are 0.041 times less likely to be vulnerable at p-value = 0.039. Higher total lifetime sexual partners above 1 (TLSP = 1) is statistically significant to vulnerability (p-value = 0.010). Similarly, women that practice sexual networking (i.e. women who have at least a sexual partner who has other sexual partners are also significantly vulnerable to cervical cancer compared women with TLSP ≤ 1. Women in sexual networking could be as high as 7.109 times more vulnerable compared to those with only one partner who has no other sexual partner (Table 4). Lower and higher age groups (below 30 and 40 years and above) are found to be statistically significant to the risk of cervical cancer (p-value = 0.021 and 0.042 respectively).

Table 2. Respondents' Sexual Behaviour and Knowledge about Cervical Cancer

Indicators of sexual behaviour	**Number**	**%**	**Indicators of sexual behaviour**	**Number**	**%**
Current number of sexual partner			**Age at first sex (median = 15.4 years)**		
None	132	14.2	10-14 years	27	3.7
Only One	527	56.5	15-19 years	357	49
2-4 Partners	176	18.9	20-24 years	300	41.2
5 Partners & above	97	10.4	25 years & above	44	6
Total	**932**	**100.0**	**Total**	**728**	**100.0**
Total Lifetime Sexual Partners			**How often do you have sex**		
Only One	427	56.6	Very Often	132	14.6
2-4 Partners	242	32.1	Often	702	77.7
5 Partners or more	86	11.4	Never had sex	70	7.7
Total	**755**	**100.0**	Total	904	100.0
Have sexual partner(s) who have other partner(s)			**Used condom in last sex**		
Yes	232	26.5	Yes	198	21.5
No	645	73.5	No	723	78.5
Total	877	100.0	Total	921	100.0
Age at first menstruation			**Frequency of using condom**		
10-14 years	245	29.8	Always	89	12.2
15-19 years	547	66.5	Rarely	126	17.3
20-24 years	30	3.6	Never used	513	70.5
Total	822	100.0	Total	728	100.0

Age @ First Pregnancy			**Ever had any STI**		
Less than 14 years	16	7.8	Yes	168	17.4
15-19 years	40	19.5	No	799	82.6
20-24 years	95	46.3	Total	967	100.0
25 years & above	54	26.3	**Age started using contraception**		
Total	205	100.0	Less than 15	41	27.0
Know cervical cancer is preventable			20-24 years	81	53.3
Yes	556	55.2	25 & above	30	19.7
No	452	44.8	Total	152	100.0
Total	1008	100.0	**Ever heard about cervical cancer**		
Ever Done Pap Smear Screening			Yes	930	90.9
Yes	114	11.7	No	93	9.1
No	861	88.3	Total	1023	100.0
Total	**975**	**100.0**			
Aware of Vaccination against Cervical Cancer			**Ever tested for HIV positive**		
Yes	112	11.8	Yes	53	5.3
No	841	88.2	No	953	94.7
Total	**953**	**100.0**	Total	1006	100.0

Source: Field Survey 2015

Table 3. Symptoms and Identified Risk factors of Cervical Cancers

Symptoms/Risk factors	**Number**	**%**	**Symptoms/Risk factors**	**Number**	**%**
Vaginal Bleeding between Periods			**Infected with (Human Papilloma Virus (HPV)**		
Yes	57	5.6	Yes	21	2.1
No	963	94.4	No	989	97.9
Total	1020	100.0	Total	1010	100.0
Experienced Vagina Discharge			**Pelvic Pain**		
Yes	157	15.4	Yes	97	9.5
No	863	84.6	No	920	90.5
Total	1020	100.0	Total	1017	100.0
Discomfort/Pain During Sex			**Bleeding during Sex**		
Yes	133	13.1	Yes	20	2.0
No	885	86.9	No	998	98.0
Total	1018	100.0	Total	1018	100.0
Heavy /Long Menstruation			**Blood in Urine**		
Yes	142	13.9	Yes	25	2.5
No	878	86.1	No	995	97.5
Total	1020	100.0	Total	1020	100.0

Source: Field Survey 2015

Table 4. Binary logistic illustrating the interconnection between women sexual behaviour and their vulnerability to cervical cancer

Selected Variables	B	S.E.	Wald	Sig.	Exp(B)
Educational Attainment					
No formal education					
Primary Education	-0.101	0.978	0.011	0.918	0.904
Secondary Education	-.850	.326	6.782	.009	.428
Tertiary Education	-1.110	.531	4.371	.037	.330
Residence					
Rural	Rc				
Urban	-.832	.311	7.151	.007	.435
Age at First Intercourse					
Less than 15years					
15-19 years	1.095	.515	4.533	.033	2.991
20-24 years	0.099	1.119	0.008	0.93	1.104
25 years & above	-3.184	1.539	4.281	0.039	0.041
Total Life Sexual Partners					
None	RC				
Only one TLSP	-.690	.355	3.784	.042	.502
2 & more TLSP	1.961	0.757	6.708	0.01	7.109
Age group					
Less than 20 years					
20-29 years	-.621	.269	5.325	.021	.537
30-29 years	0.576	1.601	0.129	0.719	1.778
40 years & above	.455	.224	4.119	.042	1.577
Sexual Networking					
Partner without other partners	RC				
Partner with other partners	1.336	1.316	1.031	0.31	3.805
Constant	-2.261	2.03	1.24	0.265	0.104
Overall Percentage = 87.4 -2 Log likelihood = 66.468	Nagelkerke R Square = 0.320		Cox & Snell R Square = 0.201		

Source: Fieldwork 2015 **RC=** Reference Category

4. DISCUSSION

The study x-rayed sexual behaviour among women in the study locations in an attempt to proffer solution to the spread of cervical cancer in Nigeria. The study provided evidences of risk sexual behaviour among the women in the study areas. These behaviours have been considered as risk factors or obstacles in the fight against the spread of cervical cancer infections as highlighted in other studies (Dim, 2012; Durowade et al., 2013; Kolawole, 2011). The study made a distinction between the contribution of older and younger ages to vulnerability of women in terms of cancer infections. While younger ages (below 20) are less vulnerable, as women ages, the probability of being vulnerable increases. Lower age becomes issues of consideration in cervical cancer challenge only if such women are exposed to sexual intercourse as younger ages. As reported by Nnebue (2016), younger ages (20-29) are ages in which young people are hyper sexual active (Nnebue et al., 2016). Most women are probably rounding up with education, already graduating from the higher colleges and have just started or in their early childbearing ages. Thus, they could be more vulnerable to risk sexual behaviour or activities. They may also be more susceptible to STIs/HIV and other related consequences of risk sexual behaviour.

The finding that higher education is statistically significant corroborate others studies that have reported statistical significance relationship between cancer incidence and educational levels (Durowade et al., 2013; Emembolu & Ekwempu, 1988; Kolawole, 2011). However, as vital as education imprint is on most human behaviour, the sacredness of culture can overshadow education influences especially in the study locations where multiple wives/sexual relationship is highly cherished (Erinosho, Joseph, Isiugo-Abanihe, Dike, & Aderinto, 2013; Kadiri, Ahmad & Mustaffa, 2014).

This could be true considering that domineering position of culture or traditional behaviour in African societies (Isiugo-Abanihe et al., 2012; Kadiri, Ahmad, & Mustaffa, 2014; Togarasei, 2015). African culture and religion are the pivots upon which most activities including sexual behavour rotates (Isiugo-Abanihe et al., 2012; Kadiri et al., 2014; Togarasei, 2015). African perspective to sexuality is distinct. The terms polygamy, conjoint marriage, consensual union, cohabitation, polygyny are familiar terms in African culture and religion practices. Certain religious practice (e.g. Islam and traditional religions) approve multiple wives and restraints on multiple wives are only exerted on those who are interested in priesthood office among those that practice Christianity. notwithstanding, the issues of 'sex for money' are also prevalent and often make it difficult to challenge any static representations of 'promiscuous' African sexuality (Amoo, 2010; Hunter, 2004; Stephenson, 2010). Similar observation was made regarding KwaZulu-Natal where multiple sexual partners and concubines are like traditional rights of men in the face of limited rights for women and in most cases, women are subjected to (Hunter, 2004). In societies where extramarital sexual activities, multiple spouses or sexual partners are not only socially condoned but are a defining element of men's wealth or position in the society, the eradication or reduction of the spread of Human Papilloma Virus infections and other STIs might be difficult to achieve.

5. CONCLUSION AND RECOMMENDATIONS

The study provided empirical evidences on the prevalence of high risk sexual behaviour that could increase the vulnerability of women to cervical cancer and, by extension, other sexually transmitted infections. The study concludes that the practice of multiple wives/spouses, and traditions that encourage these practice, including inconsistent use of condom, should be the focus in all current and future efforts to prevent or reduce the incidence of cervical cancer. The authors indicated that if the extent of high risk sexual behavior is not curtailed at individual level, most, if not all programmes initiated towards reducing cervical cancers might be ineffective. The authors therefore recommend public enlightenment on healthy sexual lifestyles that are devoid of health risk, and increasing access to cervical cancer screening. The understanding of implications of risk-sexual behaviour could enhance reduction in the spread, of not only cervical cancer but also other sexually transmitted infections in the study locations as well as other parts of the country.

ACKNOWLEDGEMENTS

The authors appreciate Covenant University Centre for Research, Innovation and Development (CUCRID) for funding the project from where the data used were extracted and the Ethic and Research Committee for advices at all stages of the survey. We also recognize the responses from our anonymous respondents as their contributions to humanity.

CONFLICT OF INTEREST

The authors declare there is no conflict of interest regarding the paper

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

All research instruments were subjected to review by the ethical committees of Covenant University. Necessary permissions were secured from the proprietorship of the health facilities used for the main study and respondents were assured of confidentiality of their responses and anonymous reporting of the research findings. As indicated in the manuscript, informed consent letters were signed and participants were encouraged to participate but were informed of their freedom to withdraw at any stage of the discussion.

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